APPENDIX B

ATCC

Catalogue of CELL LINES & HYBRIDOMAS

7th edition, 1992

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CELL LINES

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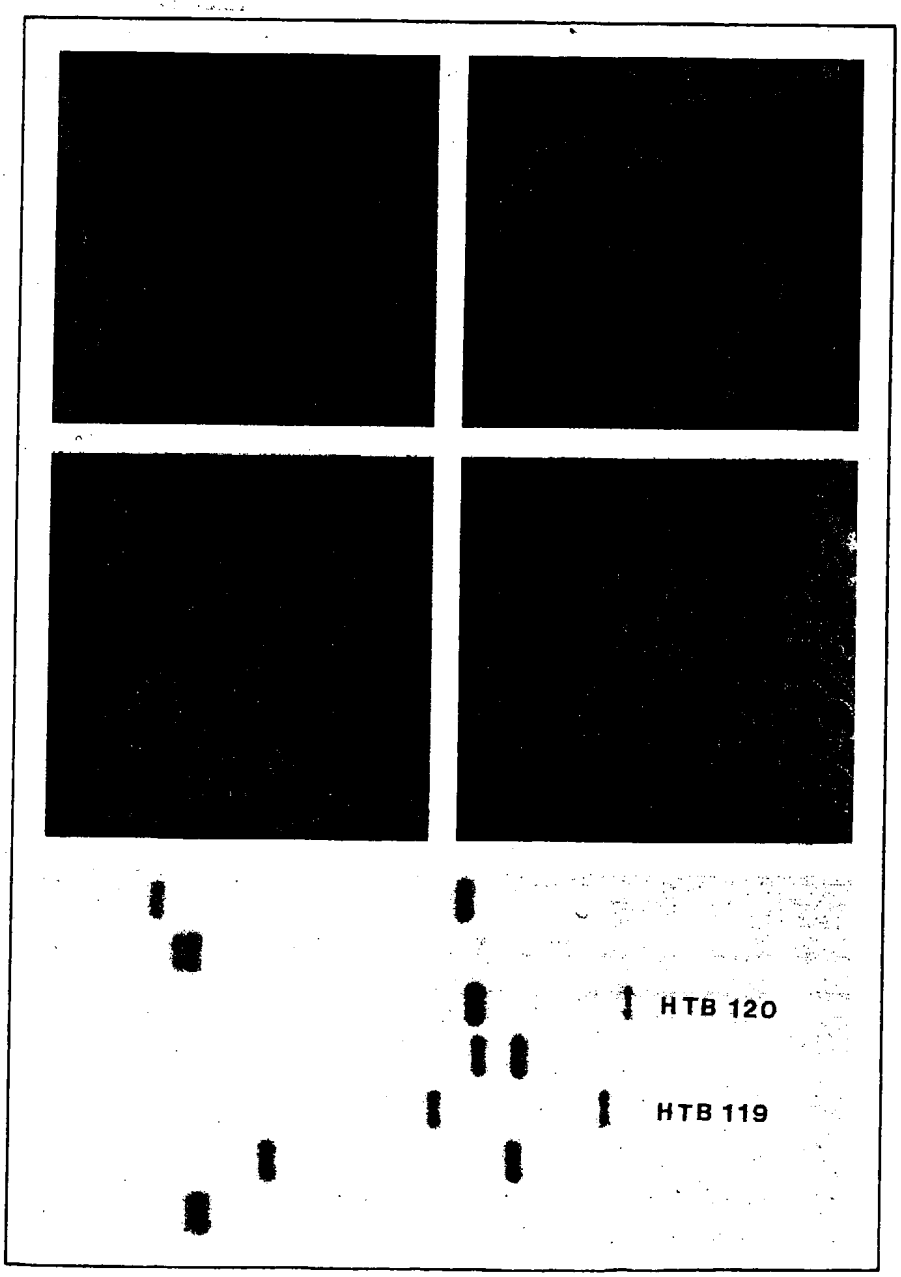

American *Type Culture* Collection

ATCC CCL 230 (continued)

DESCRIPTION OF REPOSITORY REFERENCE SEED STOCK

Number of Serial Subcultures from Tissue of Origin: 91.
Freeze Medium: Culture medium, 90%; dimethyl sulfoxide (DMSO), 10%; antibiotic-free.
Viability: Approximately 80% (dye exclusion).
Culture Medium: L-15 medium, 90%; bovine calf serum, 10%; antibiotic-free.
Growth Characteristics of Thawed Cells: An inoculum of 7×10^4 cells/ml in the above culture medium multiplies approximately 3-fold within 7 days at 37C provided the medium is renewed after 3 days.
Plating Efficiency: Approximately 2% in the above culture medium.
Morphology: Epithelial-like.
Karyology: Chromosome Frequency Distribution 50 Cells: 2n = 46

Cells:	1	1	3	1	1	1	4	21	10	7	1
Chromosomes:	59	62	63	64	65	66	67	68	69	70	73

The stemline chromosome number is near triploid with 2S component occurring at about 1.4% and 10 marker chromosomes were common to S metaphases. Except for monosomic 1, 13 and 22, and pentasomic 20, most normal chromosome types ranged from disomy to tetrasomy. The cell line is karyotypically very homogeneous and stable.
Sterility: Tests for mycoplasma, bacteria, fungi, protozoa and viruses were negative.
Species: Confirmed as human by immunofluorescence and isoenzyme analysis (G6PD type B and typical LDH).
Blood Group: O.
Tumorigenicity: Tumors developed within one month at 100% frequency (5/5) in nude mice inoculated subcutaneously with 10^7 cells.
Reverse Transcriptase: Not detected.
Production of Carcinoembryonic Antigen: 155 ng/10^6 cells in 10 days.
Colon Specific Antigen (CSAp): Negative.
Colon Antigen 3: Positive.
Isoenzymes: G6PD, B; PGM_1, 1; PGM_3, 1-2; PGD, A; ES D, 1; PEP-D, 1.
Submitted by: A. Leibovitz, Scott White Clinic, Temple, TX.
Prepared and characterized by: ATCC, Rockville, MD.

Price Code: J

ATCC CCL 231 SW48 (Colon, adenocarcinoma, human)

Current medium for propagation: Leibovitz's L-15 medium, 90%; fetal bovine serum, 10%.

SW48 was isolated with ten other colorectal adenocarcinoma cell lines during a period from 1971-1975 (A. Leibovitz, *et al.*, Cancer Res. *36:* 4562-4569, 1976). The large ulcerating Grade IV tumor encircled the bowel of the 82-year-old Caucasian female patient (blood type AB, Rh+). Little carcinoembryonic antigen (CEA) is produced and the cells are tumorigenic in nude mice (J. Fogh, *et al.*, J. Natl. Cancer Inst. (Bethesda) *59:* 221-226, 1977).

A culture at passage 89 was submitted to the American Type Culture Collection by A. Leibovitz in November 1978.

DESCRIPTION OF REPOSITORY REFERENCE SEED STOCK

Number of Serial Subcultures from Tissue of Origin: 96.
Freeze Medium: Culture medium, 90%; dimethyl sulfoxide (DMSO), 10%; antibiotic-free.
Viability: Approximately 85% (dye exclusion).
Culture Medium: L-15 medium, 90%; bovine calf serum, 10%; antibiotic-free.
Growth Characteristics of Thawed Cells: An inoculum of 6×10^4 cells/ml in the above culture medium multiplies approximately 3-fold within 7 days at 37C provided the medium is renewed after 5 days.
Plating Efficiency: Approximately 12% in the above culture medium.
Morphology: Epithelial-like.
Karyology: Chromosome Frequency Distribution 50 Cells: 2n = 46

Cells:	1	1	1	1	5	31	9	1
Chromosomes:	38	41	44	45	46	47	48	50

The stemline chromosome number is hyperdiploid and all metaphases had trisomic 7, and two markers (M1 and M2). Karyotype of the cultured population is usually homogeneous and stable.
Sterility: Tests for mycoplasma, bacteria, fungi, protozoa and viruses were negative.
Species: Confirmed as human by immunofluorescence and isoenzyme analysis (G6PD type B and typical LDH).
HLA Profile: A32, A33, B27, B35.
Blood Group: AB.
Tumorigenicity: Tumors developed within one month at 100% frequency (5/5) in nude mice inoculated subcutaneously with 10^7 cells.
Reverse Transcriptase: Not detected.
Production of Carcinoembryonic Antigen: 0.6 ng/10^6 cells in 10 days.
Colon Specific Antigen (CSAp): Negative.
Isoenzymes: G6PD, B; PGM_1, 1; PGM_3, 1-2; PGD, A; ES D, 1; PEP-D, 1.
Submitted by: A. Leibovitz, Scott White Clinic, Temple, TX.
Prepared and characterized by: ATCC, Rockville, MD.

Price Code: J

ATCC HTB 26 MDA-MB-231 (Adenocarcinoma, breast, pleural effusion, human)

Current medium for propagation: Leibovitz's L-15 medium, 90%; fetal bovine serum, 10%.

The cell line was isolated as described for ATCC HTB 23 and by R. Cailleau, *et al.* (J. Natl. Cancer Inst. (Bethesda) *53:* 661-674, 1974). A culture at passage 14 was provided by R. Cailleau in February, 1974.

CHARACTERISTICS REPORTED FOR TRANSFERRED STOCK

Patient Data: Age-51; Sex-Female; Race-Caucasian; Blood Type-O^-.
Treatment: 5-fluorouracil, prednisone, cytoxan, adriamycin, methotrexate.
Grown as: Monolayer, transferred 1:10 weekly.
Morphology: Epithelial-like.
Karyology: Mean chromosome number 68 (originator). (P17) modal number 65, hypotriploid with abnormalities including breaks, secondary constrictions, fragmentations (Fogh).
***In Vitro* Cytopathology:** (P20) Consistent with highly anaplastic carcinoma cells.
Tumorigenicity: Forms poorly differentiated adenocarcinoma grade III in nude mice consistent with breast carcinoma. Also, tumorigenic in ALS-treated BALB/c mice.

REFERENCE SEED STOCK PREPARED AT ATCC

Number of Serial Subcultures from Tissue of Origin: 24.
Freeze Medium: Culture medium, 95%; DMSO, 5%; antibiotic-free.
Viability: 80-85%.
Karyology: Chromosome Frequency Distribution 50 Cells: 2n = 46

Cells:	1	3	1	8	9	11	12	1	3	1
Chromosomes:	52	55	58	60	61	62	64	65	66	68

The cell line is aneuploid female, with chromosome counts in the near-triploid range. Normal chromosomes N8 and N15 were absent. Eleven stable rearranged marker chromosomes are noted as well as unassignable chromosomes in addition to the majority of autosomes that are trisomic. Many of the marker chromosomes are identical to those shown in the karyotype reported by K.L. Satya-Prakash, *et al.,* Cancer Genet. Cytogenet. *3:* 61, 1981.
Culture Medium: L-15 medium, 90%; fetal bovine serum, 10%; antibiotic-free.
Isoenzymes: Me-2, 1-2; PGM_3, 1; PGM_1, 1-2; ES D, 1; AK1, 1; GLO-1, 2; G6PD, B.
Phenotype Frequency Product: 0.0229.
Sterility: Tests for mycoplasma, bacteria and fungi were negative.
Species: Confirmed as human by isoenzyme analysis.
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Price Code: J

ATCC HTB 27 MDA-MB-361 (Adenocarcinoma, breast, metastasis to brain, human)

Current medium for propagation: Leibovitz's L-15 medium, 85%; fetal bovine serum, 15%.

This line differs from others of the series (ATCC HTB 23 to 26) in karyology and in that it was isolated from a brain metastasis. The initial serum supplement was 15% fetal bovine serum in L-15 medium with glutathione, insulin and cortisone. A culture at passage 35 was provided by R. Cailleau in November, 1976.

CHARACTERISTICS REPORTED FOR TRANSFERRED STOCK

Patient Data: Age-40; Sex-Female; Race-Caucasian; Blood Type-O^+.
Grown as: Semi-suspension; transferred 1:5 weekly.
Morphology: Epithelial-like.
Karyology: (P40) Hyperdiploid to hypotriploid with abnormalities including minutes and double minutes, large subtelocentric chromosome and large submetacentric marker.
***In Vitro* Cytopathology:** (P39) Adenocarcinoma cells, grade II.

REFERENCE SEED STOCK PREPARED AT ATCC

Number of Serial Subcultures from Tissue of Origin: 47.
Freeze Medium: Culture medium, 95%; DMSO, 5%; antibiotic-free.
Viability: 80-85%.
Karyology: Chromosome Frequency Distribution 30 Cells: 2n = 46

Cells:	4	4	11	6	2	1	1	1
Chromosomes:	54	55	56	57	58	59	60	61

The cell line is aneuploid human female, with chromosome counts in the hyperdiploid range. Normal chromosomes N11 and N17 are absent, chromosomes N1, N20, and N21 are weakly represented, and chromosomes N2, N8, N9, and N15 are single. The remainder of chromosomes are often paired. Eighteen marker chromosomes are found, of which 10 are consistently present. Some of these markers are found to be quite comparable to those described by K.L. Satya-Prakash, *et al.,* in their report on this cell line.
Culture Medium: L-15 medium, 90%; fetal bovine serum, 10%; antibiotic-free.
Isoenzymes: Me-2, 1; PGM_3, 1-2; PGM_1, 1; ES D, 1; AK1, 1; GLO-1, 2; G6PD, B.
Phenotype Frequency Product: 0.0241.
Sterility: Tests for mycoplasma, bacteria and fungi were negative.
Species: Confirmed as human by isoenzyme analysis.
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Price Code: J

ATCC HTB 36 JEG-3 (Choriocarcinoma, human)

Current medium for propagation: Eagle's MEM, 90%; fetal bovine serum, 10%.

This is one of six clonally derived lines isolated and described by Kohler and associates (J. Clin. Endocrinol. *32:* 683-687, 1971; Acta Endocrinol. Suppl. KBH *153:* 137-153, 1971). Fragments of the Woods' strain of the Erwin-Turner tumor in its 387th passage in the hamster cheek pouch were used to set up explant cultures in Ham's F10 medium with 13.5% horse and 3.2% fetal bovine sera. Colonies were isolated and recloned after propagation using irradiated feeder layers of human fibroblasts. JEG-3 released human chorionic gonadotrophin, human chorionic somatomammotrophin and progesterone; and was able to transform steroid precursors to oestrone and oestradiol.

A culture at passage 103 was provided by the originator in 1975. The line was propagated in Eagle's minimum essential medium with 15% fetal bovine serum until transfer to the ATCC, when the supplement was reduced to 10%.

CHARACTERISTICS REPORTED FOR TRANSFERRED STOCK

Grown as: Monolayer; transferred 1:2 weekly.
Morphology: Epithelial-like.
***In Vitro* Cytopathology:** (P106) Large malignant tumor cells.
Nude mouse: Forms malignant tumor consistent with choriocarcinoma.

REFERENCE SEED STOCK PREPARED AT ATCC

Number of Serial Subcultures from Tissue of Origin: 124.
Freeze Medium: Culture medium, 95%; DMSO, 5%; antibiotic-free.
Viability: 95%.
Karyology: Chromosome Frequency Distribution 50 Cells: 2n = 46

Cells:	2	2	4	5	17	10	10
Chromosomes:	67	68	69	70	71	72	73

This is a hypertriploid human cell line. The modal chromosome number is 71, occurring at 34%, and polyploidy at 2.6%. The t(4;11)(p15;q13), i(13q), t(10p 15q), del(18)(q21), and 6 other markers are common to most cells, and two other markers are found in some. Giant satellites are seen in one N14, and two N22. N2, N5, and N9 have 4 copies, and N7, N13, N18, N21 and X a single copy. A single Y chromosome is detected by Q-band examination.
Culture Medium: Eagle's minimum essential medium with non-essential amino acids and sodium pyruvate, 90%; fetal bovine serum 10%; antibiotic-free.
Isoenzymes: PGM_3, 1-2; PGM_1, 1; ES D, 1; AK1, 1; GLO-1, 1-2; G6PD, B.
Sterility: Tests for mycoplasma, bacteria and fungi were negative.
Species: Confirmed as human by isoenzyme analysis.
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Price Code: J

ATCC HTB 37 Caco-2 (Adenocarcinoma, colon, human)

Current medium for propagation: Eagle's MEM with non-essential amino acids and Earle's BSS, 80%; fetal bovine serum, 20%.

J. Fogh isolated this line from a primary colonic tumor using the explant culture technique and Eagle's minimum essential medium with 15% fetal bovine serum (J. Natl. Cancer Inst. (Bethesda) *58:* 209-214, 1977; *ibid., 59:* 221-226, 1977).

CHARACTERISTICS REPORTED FOR TRANSFERRED STOCK

Patient Data: Age-72; Sex-Male; Race-Caucasian; Blood Type-O^+.
Treatment: Cytoxan, 5-fluorouracil.
Grown as: Monolayer; transferred 1:2 weekly.
Morphology: Epithelial-like.
Karyology: (P14) Hypertetraploid.
***In Vitro* Cytopathology:** (P6) Adenocarcinoma cells.
Nude mouse: Forms moderately well-differentiated adenocarcinoma consistent with colonic primary, grade II.

REFERENCE SEED STOCK PREPARED AT ATCC

Number of Serial Subcultures from Tissue of Origin: 13.
Freeze Medium: Culture medium, 95%; DMSO, 5%; antibiotic-free.
Viability: 88%.
Karyology: Chromosome Frequency Distribution 50 Cells: 2n = 46

Cells:	1	2	2	3	2	8	5	4	6	5	6	1	1	1	1	2
Chromosomes:	91	92	93	94	95	96	97	98	99	100	101	102	103	104	106	107

This is a human cell line. The stemline modal chromosome number is 96; occurring at 16% with polyploidy at 3.2%. Ten common markers were detected *i.e.,* t(1q;?), $10q^-$, t(11q17q) and 7 others. The t(1q17q) and M11 were found in a portion of cells. The ins(2), $10q^-$, and t(15q;?) were generally paired, and t(11q;17q) and t(21q;?) were mostly three-copied. Normal N9 was absent, and N21 was lost in some cells. One to 4 small acrocentric chromosomes were detected. No Y chromosome with bright distal q-band was detected by Q-observation.
Culture Medium: Eagle's minimum essential medium with non-essential amino acids and sodium pyruvate, 85%; fetal bovine serum, 15%; antibiotic-free.

Isoenzymes: Me-2, 1; PGM_3, 1; PGM_1, 1; ES D, 1; AK1, 1; GLO-1, 1; G6PD, B.
Phenotype Frequency Product: 0.0187.
Sterility: Tests for mycoplasma, bacteria and fungi were negative.
Species: Confirmed as human by isoenzyme analysis.

Price Code: J

ATCC HTB 38 HT-29 (Adenocarcinoma, colon, moderately well-differentiated grade II, human)

Current medium for propagation: McCoy's 5a medium, 90%; fetal bovine serum, 10%.

The HT-29 line was isolated from a primary tumor in 1964 by J. Fogh using the explant culture method and medium F12 with 15% fetal bovine serum. More recently, established cultures have been propagated in McCoy's 5a medium with the same serum supplement. Characteristics of the line (as below) were summarized by J. Fogh and G. Trempe (*In:* Human Tumor Cells *In Vitro,* pp. 115-159, J. Fogh (ed.), Plenum Press, New York, 1975).

CHARACTERISTICS REPORTED FOR TRANSFERRED STOCK

Patient Data: Age-44; Sex-female; Race-Caucasian; Blood Type-A^+.
Grown as: Monolayer; transferred 1:4 weekly.
Morphology: Epithelial-like.
***In Vitro* Cytopathology:** (P119) Adenocarcinoma.
Tumorigenicity: Forms well-differentiated adenocarcinoma consistent with colonic primary, grade I. Tumors also form in steroid-treated hamsters.
Ultrastructure: Microvilli, microfilaments, large vacuolated mitochondria with dark granules, smooth and rough ER with free ribosomes, lipid droplets, few primary and many secondary lysosomes, no virus particles (Sarkar).
Carcinoembryonic Antigen: Produced.
Other Products: Secretory component of IgA released.
HLA Cell Line Phenotype: A1, 3; B12, 17; Cw5.

REFERENCE SEED STOCK PREPARED AT ATCC

Number of Serial Subcultures from Tissue of Origin: 125.
Freeze Medium: Culture medium, 95%; DMSO, 5%; antibiotic-free.
Viability: 91%.
Karyology: Chromosome Frequency Distribution 50 Cells: 2n = 46

Cells:	6	10	12	17	5
Chromosomes:	68	69	70	71	72

The stemline chromosome number is hypertriploid with the 2S component occurring at 2.4%. Seventeen marker chromosomes are found in most metaphases. They are generally present in single copy per chromosome and designated as follows: M1p- (=t(3p-;?) with a deleted short arm), t(7q;?), t(10q-;?), i(13q), 19q+a; M6, ?t(8q;9q-), ?Xp, M9, 6q+, t(13;?)a, t(13;?)b, 19q+b, M14, M15, 15p+, and Xq-. N13 is nullisomic and N8 and N14 are generally monosomic. No Y chromosome was detected by QM-band analysis.
Culture Medium: McCoy's 5a medium, 90%; fetal bovine serum, 10%; antibiotic-free.
Isoenzymes: Me-2, 1; PGM_3, 1-2; PGM_1, 1-2; ES D, 1; AK1, 1; GLO-1, 1-2; G6PD, B.
Phenotype Frequency Product: 0.0230.
Sterility: Tests for mycoplasma, bacteria and fungi were negative.
Species: Confirmed as human by isoenzyme analysis.
Blood Group Antigen: Confirmed as A on cultured cells.

Price Code: J

ATCC HTB 39 SK-CO-1 (Adenocarcinoma, colon, ascites, human)

Current medium for propagation: Eagle's MEM with non-essential amino acids, sodium pyruvate and Earle's BSS, 90%; fetal bovine serum, 10%.

The SK-CO-1 line was isolated by G. Trempe and L.J. Old in 1972 from a malignant ascites of an individual with colon carcinoma. Eagle's minimum essential medium with 10-15% fetal bovine serum has been used throughout for cell propagation. A culture at passage 3 was submitted by the originators in 1972.

CHARACTERISTICS REPORTED FOR TRANSFERRED STOCK

Patient Data: Age-65; Sex-Male; Race-Caucasian; Blood Type-O^+.
Treatment: P^{32}-pleura, 3000R-abdomen, 5-fluorouracil, methyl-CCNU, cytoxan, vincristine, adriamycin.
Grown as: Monolayer; transferred 1:3 weekly.
Morphology: Epithelial-like.
Karyology: (P7) Hypertriploid to hypotetraploid with abnormalities including dicentrics, minutes, rings, secondary constrictions, and 8 large submetacentric markers.
***In Vitro* Cytopathology:** (P32) Mucinous consistent with primary colonic adenocarcinoma.
Ultrastructure: Microvilli, microfilaments, small mitochondria with dark granules and dilated cristae, sparse RER, few Golgi, lipid droplets, multilamellar bodies, no virus particles (Sarkar).
HLA Cell Line Phenotype: A1, 3; B7, 13.

REFERENCE SEED STOCK PREPARED AT ATCC

Number of Serial Subcultures from Tissue of Origin: 38.
Freeze Medium: Culture medium, 95%; DMSO, 5%; antibiotic-free.

ATCC HTB 160 (continued)
Sterility: Tests for mycoplasma, bacteria and fungi were negative.
Species: Confirmed as human by isoenzyme analysis.

Price Code: J

ATCC HTB 161 NIH:OVCAR-3 (Ovary, adenocarcinoma, human)

Current medium for propagation: RPMI 1640 with 10 μg/ml insulin, 80%; fetal bovine serum, 20%.

NIH:OVCAR-3 was established in 1982 by T.C. Hamilton, *et al.*, (Cancer Res. *43:* 5379-5389, 1983) from the malignant ascites of a patient with progressive adenocarcinoma of the ovary. The cell line is tumorigenic in nude athymic mice, forms colonies in soft agar and has an abnormal karyotype. The line is resistant *in vitro* to clinically relevant concentrations of adriamycin, melphalan and cisplatin (Science (Washington, DC) *224:* 994-996, 1984; Cancer Res. *44:* 5427-5431, 1984). Both cultured cells and xenografts exhibit androgen and estrogen receptors. Xenograft models have been used to show that treatment with 17 β-estradiol can induce progesterone receptors in this human ovarian carcinoma (J. Clin. Endocrinol. Metab. *59:* 561-563, 1984). NIH:OVCAR-3 is an appropriate model system in which to study drug resistance in ovarian cancer, and the presence of hormone receptors should be useful for the evaluation of hormonal therapy (Semin. Oncol. *11:* 285-298, 1984; Cancer Res. *44:* 5286-5290, 1984).

A frozen ampule of NIH:OVCAR-3 at passage 7 was obtained from R.F. Ozols and T.C. Hamilton, Experimental Therapeutics Section, Medicine Branch, NCI, NIH, Bethesda, MD in February, 1985.

REFERENCE SEED STOCK PREPARED AT ATCC

Patient Data: Age-60; Sex-Female; Race-Caucasian; Blood type-?
Treatment: Adriamycin, cyclophosphamide, cisplatin.
Grown as: Monolayer.
Morphology: Epithelial.
Number of Serial Subcultures from Tissue of Origin: 13.
Freeze Medium: Culture medium, 95%; DMSO, 5%; antibiotic-free.
Viability: 85%.
Karyology: Chromosome Frequency Distribution of 30 Cells: 2n = 46

Cells:	4	1	3	2	5	4	3	4	4
Chromosomes:	63	64	65	66	67	68	69	70	71

The cell line is aneuploid human female, with chromosome counts in the sub to near-triploid range. Several normal chromosomes (N11, N13, N14, N15, N16, N17, and N22) are clearly under-represented. Many of these missing chromosomes are represented in the large number of cytogenetically altered chromosomes identified as marker chromosomes. In addition to the marker chromosomes, there are a large number of other structurally abnormal and unassignable chromosomes that are not recognized as markers. Random loss and gain of chromosomes from cell to cell are noted in the exact chromosome counts and in the analysis of the karyotypes.

Culture Medium: RPMI 1640 with 10 μg/ml insulin, 90%; fetal bovine serum, 10%.
Isoenzymes: G6PD, B; PGM_1, 1; PGM_3, 1; ES D, 1; AK1, 1; GLO-1, 1.
Phenotype Frequency Product: 0.0426.
Sterility: Tests for mycoplasma, bacteria and fungi were negative.
Species: Confirmed as human by isoenzyme analysis.
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Price Code: J

ATCC HTB 163 Hs 67 (Thymus, normal, human)

Current medium for propagation: Dulbecco's modified Eagle's medium with 4.5 g/L glucose, 90%; fetal bovine serum, 10%.

Hs 67 was developed in 1969 at the Naval Biosciences Laboratory by R. Owens from the thymus of a 6-pound, apparently normal male. Cells and fragments were seeded in L-15 medium supplemented with 30% serum. The fibroblast-like monolayer which formed within 1 month completed the first passage.

CHARACTERISTICS REPORTED FOR TRANSFERRED STOCK

Patient Data: Age-Newborn; Sex-Male; Race-Caucasian mother.
Treatment: None indicated.
Grown as: Monolayer, transferred 1:2 weekly.
Morphology: Fibroblast-like.
Karyology: Chromosome Frequency Distribution 8 Cells (passage 38): 2n = 46

Cells:	1	7
Chromosomes:	45	46

REFERENCE SEED STOCK PREPARED AT ATCC

Number of Serial Subcultures from Tissue of Origin: 13 (PDL estimated at 22).
Freeze Medium: Culture medium, 95%; DMSO, 5%; antibiotic-free.
Viability: 71%.
Culture Medium: Dulbecco's modified Eagle's medium with high glucose (4.5 g/L), 90%; fetal bovine serum, 10%; antibiotic-free.

ATCC HB 8065 **Hep G2 (Hepatocellular carcinoma, human)**

Current medium for propagation: Eagle's MEM with non-essential amino acids, sodium pyruvate and Earle's BSS, 90%; fetal bovine serum, 10%. This line was derived from tissue of a 15-year-old male Caucasian. The cells are epithelial in morphology, have a modal chromosome number of 55 and are not tumorigenic in nude mice. The cells produce α-fetoprotein, albumin, α2-macroglobulin, α1-antitrypsin, transferrin, α1-antichymotrypsin, haptoglobin, ceruloplasmin, plasminogen, complement (C3, C4), C3 activator, fibrinogen; α1-acid glycoprotein, α2-HS glycoprotein, β-lipoprotein and retinol binding protein. There is no indication that this line harbors a hepatitis B virus genome. **References:** U.S. Pat. 4,393,133; Nature (Lond.) *282:* 615-616, 1979; Science (Washington, DC) *209:* 497-499, 1980; In Vitro Cell. Dev. Biol. *23:* 349-354, 1987. **Depositor:** Wistar Institute, Philadelphia, PA. **Note:** This material is cited in a U.S. and/or other Patent and may not be used to infringe the patent claims.

Price Code: H

ATCC HB 8370 **UCD-MLA-144 (Lymphosarcoma, gibbon ape)**

Current medium for propagation: RPMI 1640, 90%; fetal bovine serum, 10%. **Additional Information:** The UCD-MLA-144 cell line is derived from a T cell lymphoma from a gibbon ape. The cells are reverse transcriptase positive and produce a simian retrovirus (gibbon ape leukemia virus) a moderate risk oncogenic virus. Handle as potentially biohazardous material under at least Biosafety Level 2 containment. The cells are diploid, with a modal chromosome number of 44. **Reference:** Nature New Biol. *235:* 170-171, 1972. **Depositor:** Genetics Institute, Boston, MA. **Note:** This material is cited in a U.S. and/or other Patent Application and may not be used to infringe the patent claims. Price Code: H

ATCC HB 8502 **LTR228 (B lymphoblastoid, human)**

Current medium for propagation: Iscove's modified Dulbecco's medium with 0.03% L-glutamine and 0.02 mM 6-thioguanine, 90%; fetal bovine serum, 10%. **Additional Information:** The LTR228 cell line is a derivative of the WIL-2NS (ATCC CRL 8155) human B cell line (Epstein-Barr transformed, handle as potentially biohazardous material under at least Biosafety Level 2 containment). The cells are resistant to 6-thioguanine and can be used in fusions with human B-lymphocytes to produce human hybridomas. They have a high cloning efficiency in soft agar and by limiting dilution. The cells produce small amounts of immunoglobulin (IgM κ). **Reference:** U.S. Pat. 4,624,921. **Depositor:** Cetus Corporation, Emeryville, CA. **Note:** This material is cited in a U.S. and/or other Patent and may not be used to infringe the patent claims. Price Code: H

†The passage number listed applies to material available for distribution as of September, 1991